

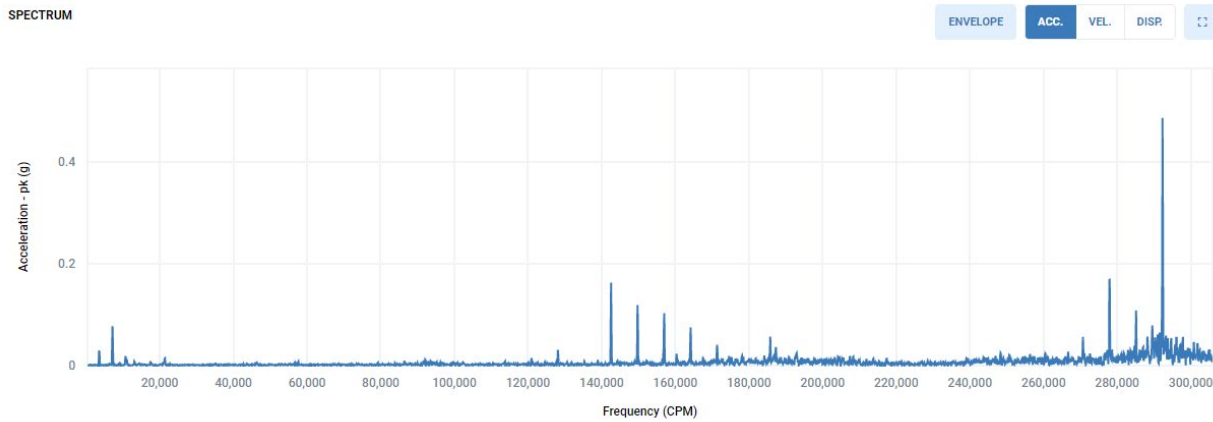
In the wastewater treatment industry, uninterrupted aeration is crucial for effective operation and compliance with environmental regulations. When a Wastewater Treatment Plant (WWTP) experienced a major bearing failure in two of their high-speed, high-temperature blowers, it posed a significant challenge. The blower manufacturer had no spare parts or replacements available, leaving the plant at risk of EPA issues and costly downtime. This case study highlights how the implementation of Sensoteq's KAPPA X wireless monitoring solution provided crucial support, proactive maintenance, and prevented further damage to critical equipment.

The WWTP faced an urgent need to address the bearing failure in their blowers, as it jeopardized their aeration process. With no spare parts or replacement blowers immediately available, they were forced to rent a blower system at a substantial cost while the damaged blowers were being rebuilt. The plant's time-sensitive operations demanded a reliable monitoring system that could alert maintenance personnel to potential issues before catastrophic failures occurred.

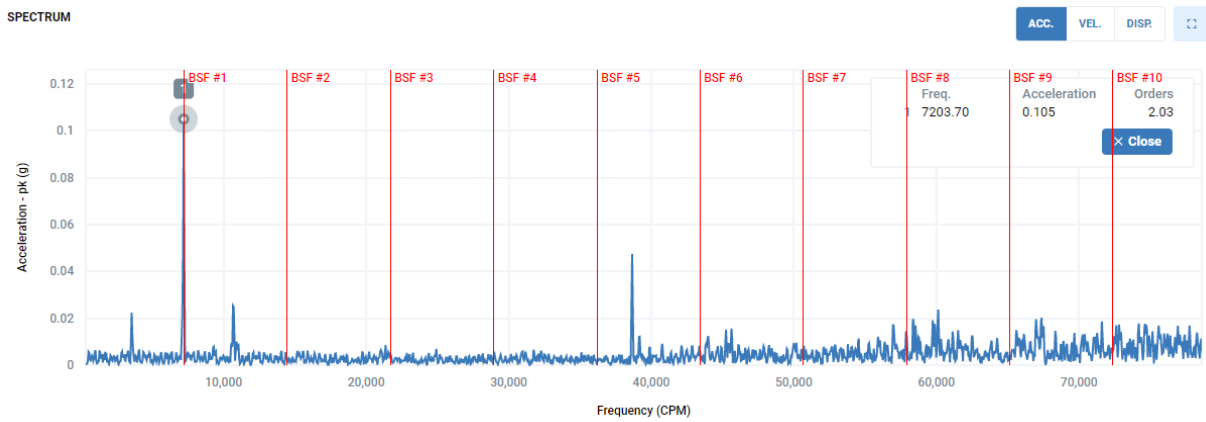
Recognizing the importance of continuous support and 24-hour monitoring, the WWTP turned to LUDECA for a solution. The KAPPA X wireless vibration monitoring system was chosen for its ability to set thresholds and alarms, providing real-time notifications of any abnormalities by email or SMS text. This would enable the plant's maintenance team to promptly respond, shutting down units before secondary damage occurred. The implementation of the KAPPA X system allowed for proactive maintenance practices and ensured the integrity of critical equipment.



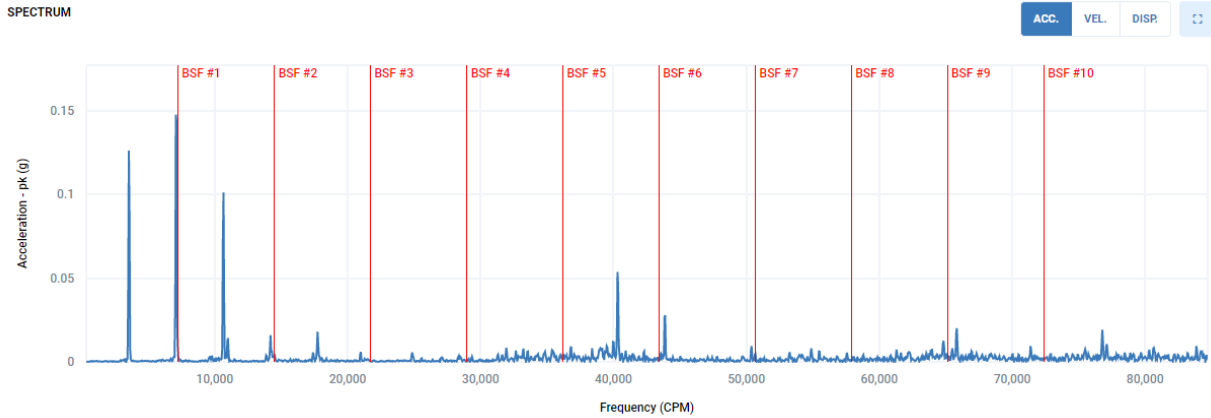
The benefits of KAPPA X wireless vibration monitoring system became evident soon after its installation. Just last month, the system detected defects in a DE motor bearing, triggering an alarm. Thanks to this early warning, the maintenance team swiftly replaced the motor, performed realignment, and had the blower operational within an hour. The system prevented extensive damage to the motor, coupling, and potentially another blower. The underlying cause of the motor bearing damage, severe misalignment and soft foot, was promptly addressed with the purchase of the Easy-Laser XT440 shaft alignment tool to correct the issue.



**Motor Drive End Bearing – Acceleration Spectrum (March 5, 2023)**



**Motor Drive End Bearing – Acceleration Spectrum (March 12, 2023)**



**Motor Drive End Bearing – Acceleration Spectrum (April 7, 2023)**

The WWTP's satisfaction with the KAPPA X condition monitoring system has led to an expansion of sensors and gateways into their production motors. Recognizing the value of proactive maintenance and early detection, the customer plans to implement the system across their 15 plants nationwide. KAPPA X has not only mitigated immediate challenges but also uncovered maintenance practices that were previously overlooked, allowing the WWTP to optimize their overall maintenance approach.

By adopting the KAPPA X monitoring system, the Wastewater Treatment Plant successfully mitigated the risks associated with the sudden failure of high-speed, high-temperature Spencer Blowers. The solution provided real-time alerts, ensuring that maintenance personnel could address issues promptly, minimize downtime, and prevent further damage. The system's effectiveness in identifying motor bearing defects and the subsequent expansion of sensors into other critical equipment showcases the customer's confidence in LUDECA's KAPPA X solution. As the WWTP continues to optimize their maintenance practices, they can rely on LUDECA support to maintain operational efficiency and meet environmental compliance requirements.

*Thank you to Mike Boyer with I&E Central LLC for the local support helping this customer #keepitrunning with KAPPA X!*